

Oregon Crab Seasons and their Effect on the Quality and Quantity of Crabs Landed.

Introduction

The non-uniformity of the crab seasons and quality of the crabs at the time the various seasons opened along the California, Oregon, and Washington coasts were discussed at length during the 1958 PMFC meeting in Seattle. Two principal problems were involved. The first was the shipment of crabs from the southern area which opens early (November 15) into other marketing areas where the season opens later (December 15) and the alleged poor quality of the crabs in these early shipments. The second was the variable quality of crabs at the opening of all the seasons (except perhaps San Francisco) between years. From this discussion arose a request from the PMFC that the research staffs investigate available records concerning the incidence of soft-shell crabs during past seasons.

A report was made of the findings at the 1959 PMFC meeting at which time the available data on crab quality was thoroughly discussed. Plant records (meat recovery) and biologist records (shell condition) were investigated with little success. The plant records were not comparable due to variations in processing and record-keeping. The biologist records likewise, were of limited value due to uncontrollable variables. Determining total solids by the moisture extraction procedure indicated some promise but limited funds and personnel precluded its application.

There is virtually no precise data available on the condition of the crabs in the various areas at the time the seasons open each year. Nevertheless it is generally recognized by both biologists and industry that in certain seasons, such as 1959-60, an appreciable portion of the crabs landed early in the season were not in prime condition. Suggestions from some segments of the industry then followed to delay the opening of the season to assure that the crabs will all be in prime condition each season

when the annual harvest begins. Such suggestions met with rebuttal by

other segments of the industry.

Those who opposed a later opening for the crab seasons felt that less crabs would be caught either because the crabs would die before the season opened or because they would migrate to other areas. This report summarizes the available information regarding this problem.

The Oregon fishery records have been used in this report because of ready accessibility by the author and because Oregon offshore seasons differ from those of adjacent areas in California and Washington. For

California, the San Francisco area opens the second Tuesday in November and for Northern California, December 15. For Oregon the southern area (south of Cascade Head) opens November 15, and the northern area December 15. For the Washington coast the season opens December 15.

Quantity of Crabs

The three principal ports for the Oregon crab fishery are Astoria, Newport, and Coos Bay. These three account for more than 80 per cent of Oregon's crab production. The production records from these ports will be dealt with in detail.

Figure 1 shows the crab landings, in dozens, and fishing effort, in numbers of pots fished per season, for Astoria, Newport, and Coos Bay during the 1947-48 through the 1958-59 seasons. The Astoria landings were high for 1947-48 (186,200 dozen) and 1948-49 (175,100 dozen), then fell off to a low in 1951-52 (49,700 dozen). Subsequently the landings rose slowly and steadily to a peak in 1957-58 of 125,700 dozen. The numbers of pots fished have followed a similar pattern for those years for which records are available. The Newport landings have steadily increased during the study period and the fishing effort likewise. The Coos Bay landings and fishing effort have remained remarkably stable.

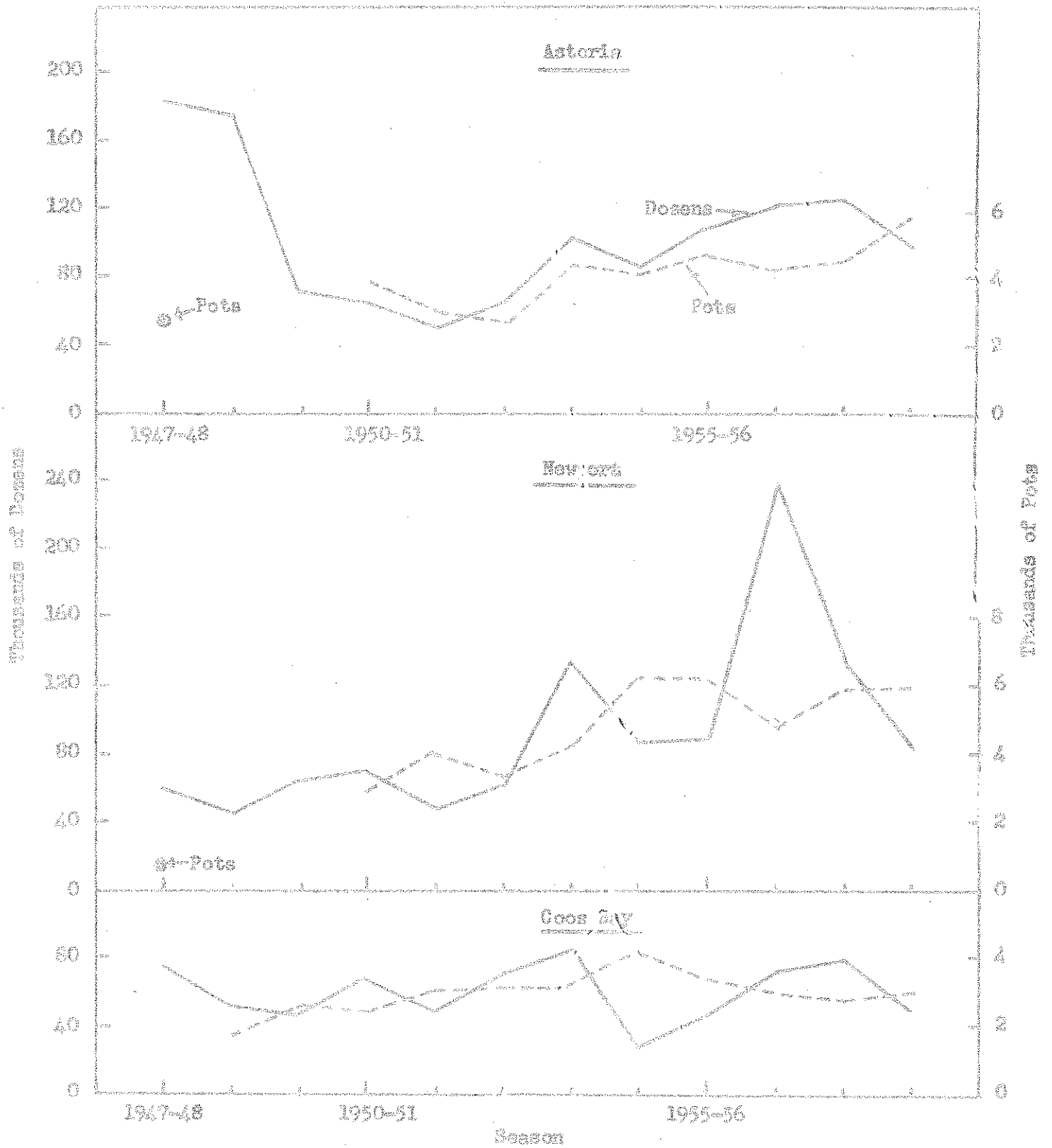


Figure 1. Oregon Crab Catch (Dozens) and Effort (Total Numbers of Pots) by Port, 1947-59.

The fluctuation of the landings are thought to be due to variations in the survival of young crabs independent of the fishery. The regulations on minimum size and sex restrict the fishery to adult male crabs, in their 3rd or 4th year of life, which are approaching the end of their life span. Males spawn at least once before they reach marketable size. Results of tagging experiments in Washington and Oregon suggest that the fishery harvests about 90 per cent of the available marketable crabs each season. Tagging experiments also indicate little migration of crabs out of the areas from which they were tagged. The principal problem then is not how many to harvest but when to harvest these animals.

The monthly landings by port for each season were graphed, in per cent, and an unusual situation appeared. In the interest of brevity, two examples are shown in Figure 2. Here we have graphed for each port, the monthly landings, as a per cent of the season landings, for the 1947-48 and 1958-59 season. For Astoria the bulk of the 1947-48 catch (67 per cent) was landed during the months of March, April, and May. In the 1958-59 season, only 43 per cent was landed during this period. It is obvious that a greater portion of the catch was landed during the early part of the season in 1958-59. The season opening dates were similar--December 28, 1947, and December 15, 1958.

For Newport, a similar situation exists. During the 1947-48 season, 71 per cent of the crabs were landed during the peak months of March, April, and May. During 1958-59, only 27 per cent of the catch was landed then, and the peak month was December (27 per cent). More crabs were landed during 1958-59, but likewise more pots were fished. The 1947-48 and 1958-59 seasons opened on November 15.

For Coos Bay the same situation occurred. In 1947-48, 56 per cent of the crabs were landed during the peak months of March, April, and May

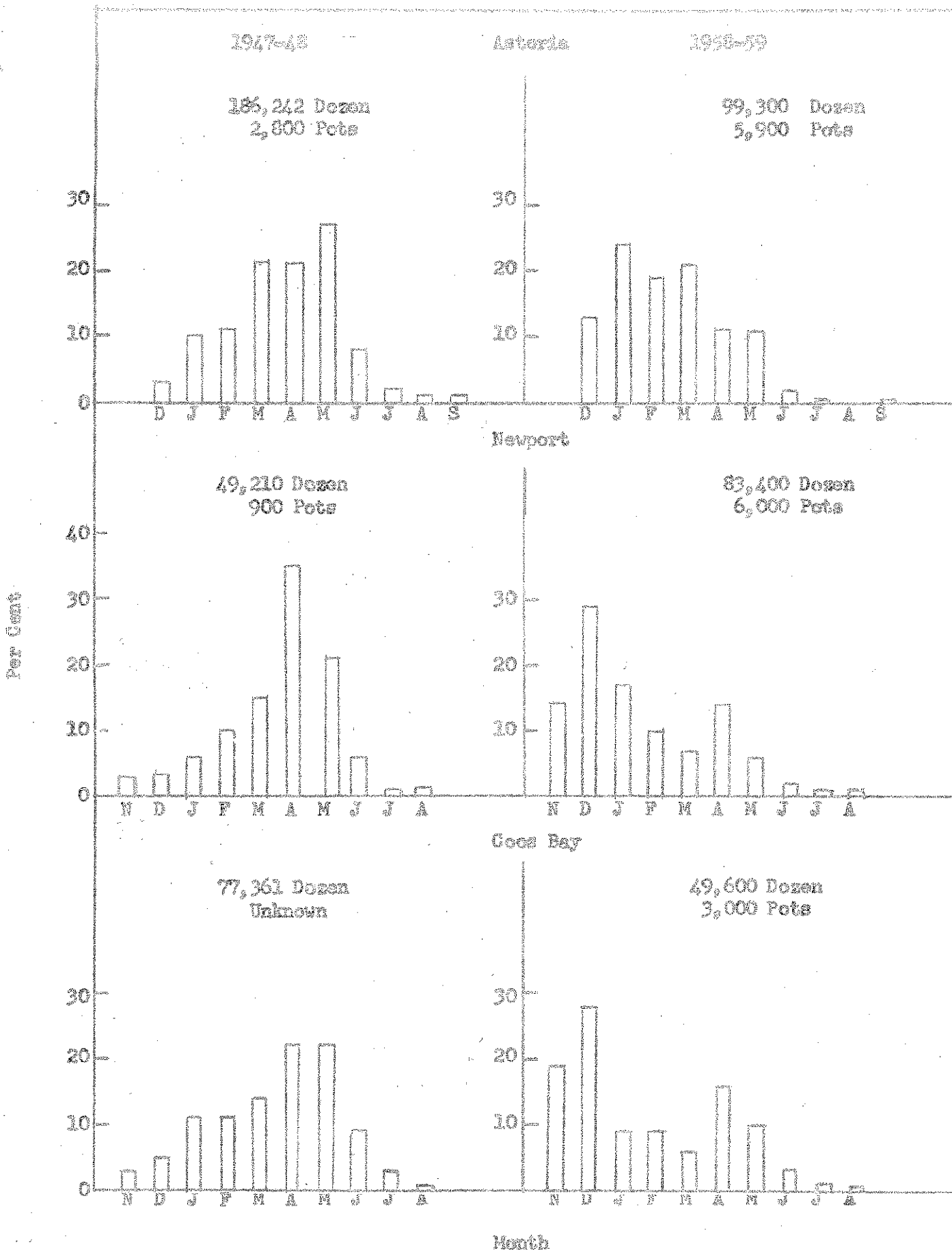


Figure 2. Oregon Crab Landings by Port and Month, 1947-48 and 1958-59.

whereas in 1958-59, 31 per cent was landed during these months and December was the peak month with 28 per cent of the season's landings. The 1958-59 season catch was smaller than that in 1947-48. The opening date was November 15 for both seasons. It should be noted in Figure 1 that the Coos Bay crab landings have remained remarkably stable throughout the study period despite a substantial change in time of harvest.

For each of these ports, the same picture emerges—a greater proportion of the catch was taken earlier for the 1958-59 season than for 1947-48. It is also obvious that if the crabs are taken earlier, there are less to be taken later. There is no indication that an earlier opening will increase the catch.

These data suggest that a later opening date would probably not reduce the total catch of crabs but would result in a greater proportion of the crabs being landed in prime condition.

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